ABSTRACT

A haptic feedback interface device and actuator assembly providing inertial tactile sensations. An interface device includes a housing that is physically contacted by a user, a sensor device detecting said manipulation of the interface device by the user, and an actuator assembly of the present invention. The assembly includes an actuator operative to output a force and a mechanism coupling the actuator to the device housing. The mechanism allows the actuator to be moved and act as an inertial mass when in motion to provide an inertial force that is transmitted to the user. The mechanism includes at least two separated portions, each of the portions coupled to a different portion of the actuator. The mechanism is preferably a flexure having at least two flex joints.